

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (original) A location system for locating a plurality of mobile terminals, comprising:

a communication terminal for transmitting a location request specifying a target mobile terminal and a type of location information; and

a location network responsive to said location request from said communication terminal for producing current location information of the target mobile terminal if the type of location information of the received request specifies current location information and transmitting the current location information to said communication terminal and storing the last known location information in a memory as last known location information of the target mobile terminal, and copying stored last known location information of the target mobile terminal from the memory if said type of location information specifies last known location information and transmitting the copied information to said communication terminal.

2. (original) The location system of claim 1, wherein

said location network performs a reusability test on the stored last known location information and transmits said last known location information if the reusability test indicates a favorable result and transmits said current location information if the reusability test indicates an unfavorable result.

3. (original) The location system of claim 2, wherein said location request contains a parameter of last known location information, and wherein said location network performs said reusability test by using said parameter.

4. (original) The location system of claim 2, wherein said parameter represents one of age and accuracy of last known location information.

5. (original) The location system of claim 1, wherein said location network maintains privacy profile of the target mobile terminal, uses the privacy profile to perform a privacy check on said location request and transmits said last known location information if the privacy check indicates a favorable result.

6. (original) The location system of claim 5, wherein said location network transmits a notification message to the target mobile terminal according to said privacy profile before transmitting said last known location information to said communication terminal.

7. (original) The location system of claim 1, wherein said location network transmits a verification message to the target mobile terminal according to said privacy profile and transmits said last known location information to the communication terminal when the location system receives a verification report from the target mobile terminal which indicates that the location request is verified by the target mobile terminal.

8. (original) The location system of claim 1, wherein said communication terminal is a client terminal.

9. (original) The location system of claim 1, wherein said communication terminal is a mobile terminal which represents one of said plurality of mobile terminals.

10. (original) The location system of claim 9, wherein said location network is responsive to said location request from one of said mobile terminals for producing current location information of a target mobile terminal if the type of location information specifies current location information and transmitting the current location information to said one mobile terminal and storing the last known location information in a memory as last known location information of the target mobile terminal, and copying last known location information of the target mobile terminal from the memory if said type of location information specifies last known

location information and transmitting the copied information to said one mobile terminal.

11. (original) The location system of claim 1, wherein said location network comprises:

a plurality of gateways for receiving said location request from said communication terminal, each of said gateways storing last known location information of home mobile terminals, said location request further containing a parameter of last known location information;

a plurality of registers associated respectively with said gateways; and

a plurality of wireless networks connected to said gateways for establishing wireless links to said mobile terminals,

each of said gateways being responsive to a location request from said communication terminal specifying one of said home mobile terminals as a target mobile terminal, (a) transmitting a copy of the stored last known location information of the target mobile terminal to the communication terminal if the type of location information of the location request specifies last known location information and if said parameter of last known location information is met by the stored last known location information, and (b) acquiring a node identifier from the associated register if said parameter

is not met by the stored last known location information, acquiring current location information of the target mobile terminal from one of said wireless networks specified by the acquired node identifier and transmitting the acquired current location information to the communication terminal.

12. (original) The location system of claim 11, wherein each of said gateways maintains privacy profiles of the home mobile terminals, and wherein each of the gateways transmits said copy of stored last known location information if said location request meets the privacy profile of the target mobile terminal.

13. (original) The location system of claim 11, wherein said location network further comprises a plurality of privacy profile registers associated respectively with said gateways for storing privacy profiles of home mobile terminals of the associated gateway,

each of said gateways transmitting a request to the associated privacy profile register in response to receipt of said location request for requesting the associated register to make a decision as to whether the location request meets the privacy profile of the target mobile terminal, receiving a report indicating said decision, and transmitting said copy of last known location information if said decision is favorable.

14. (original) The location system of claim 1, wherein

said location network comprises:

a plurality of gateways for receiving said location request from said communication terminal, said location request further containing a parameter of last known location information;

a plurality of registers associated respectively with said gateways;

a plurality of wireless networks connected to said gateways for establishing wireless links to said mobile terminals, each of said wireless networks storing last known location information of home mobile terminals,

each of said gateways being responsive to a location request from said communication terminal specifying one of said home mobile terminals as a target mobile terminal, (a) acquiring a node identifier from the associated register, acquiring last known location information of the target mobile terminal from one of said wireless networks specified by the acquired node identifier if the type of location information of the location request specifies last known location information and if said parameter of last known location information is met by the stored last known location information, and (b) acquiring current location information of the target mobile terminal from said specified wireless network if said parameter is not met by the stored location

information and transmitting the acquired current location information to the communication terminal.

15. (original) The location system of claim 1, wherein said location network comprises:

a gateway including receive means for receiving a location request from a communication terminal, said request specifying a target mobile terminal and a type of location information; and

a wireless network including:

a memory;

control means for receiving the location request from said gateway and producing current location information of the target mobile terminal if the type of location information of the received request specifies current location information and storing the acquired current location information in said memory as last known location information of the target mobile terminal, and reading the stored last known location information of the target mobile terminal from said memory if said type of location information specifies last known location information; and

transmit means for transmitting, to said gateway, a copy of the acquired current location information or a copy of the last known location information read from said memory, depending on said type of last known location information,

said gateway further including transmit means for repeating said copy of current location information or last known location information to said communication terminal.

16. (original) The location system of claim 15, wherein said location request further contains a parameter of last known location information, and a privacy profile of said target mobile terminal is stored in said memory,

wherein said control means includes reusability check means for performing a reusability test by checking said parameter with the stored privacy profile when said type of location information specifies last known location information and reading the stored last known location information from said memory when said reusability test indicates a favorable result.

17. (original) The location system of claim 15, wherein said privacy profile indicates whether or not notification is required for notifying that the target mobile terminal is being accessed, and wherein said control means further includes notification means for transmitting a notification message to said target mobile terminal prior to the transmission of said last known location information to said communication terminal if said privacy profile of said target mobile terminal requires notification.

18. (original) The location system of claim 15, wherein



said privacy profile indicates whether or not the location request is verified by the target mobile terminal, and wherein said control means further includes verification means for transmitting a verification message to said target mobile terminal and receiving a verification report from the target mobile terminal prior to the transmission of said last known location information to said gateway if said privacy profile of said target mobile terminal indicates that verification by the target mobile terminal is required, and transmitting said copy of last known location information to said gateway if said verification report indicates a favorable result.

19. (original) A location system comprising:

a communication terminal (101) for transmitting a location request specifying a target mobile terminal, a type of location information, and a parameter of last known location information;

a gateway (102) for storing last known location information of home mobile terminals and privacy profiles of the mobile terminals; and

a plurality of wireless networks (103, 104) for establishing a wireless link to mobile terminals,

said gateway (102) being responsive to said location request for performing a reusability test by checking said parameter with the privacy profile of the target mobile terminal if said type specifies last known location

information, acquiring a node identifier from an associated register and current location information of the target mobile terminal from one of said wireless networks specified by said node identifier if said reusability test indicates an unfavorable result, transmitting the current location information from the gateway to the communication terminal, and storing the current location information in a memory as last known location information of said target mobile terminal,

said gateway transmitting a copy of last known location information of the target mobile terminal to the communication terminal if said reusability test indicates a favorable result.

20. (original) A location system comprising:

a communication terminal (101) for transmitting a location request specifying a target mobile terminal, a type of location information, and a parameter of last known location information;

a gateway (102);

a register (106); and

a plurality of wireless networks (103, 104) for establishing a wireless link to mobile terminals and storing privacy profiles and location information of said mobile terminals,

said gateway (102) being responsive to said location

request for (a) acquiring a node identifier from said register (106) if said type specifies last known location information, (b) authorizing one of a plurality of wireless networks specified by the node identifier to perform a reusability test by checking said parameter with the privacy profile of the target mobile terminal, (c) acquiring from current location information of the target mobile terminal from said one wireless network, and storing the current location information in a memory, and (d) acquiring a copy of the last known location information of the target mobile terminal from said one wireless network if said reusability test indicates a favorable result or a copy of the current location information if said reusability test indicates an unfavorable result and transmitting the copy of the last known location information or current location information to said communication terminal.

21. (original) The location system of claim 20, wherein one of said mobile terminals transmits a location request specifying a target mobile terminal, a type of location information and a parameter of last known location information,

one of said wireless networks being responsive to a location request from said one mobile terminal for (a) performing a reusability test by checking said parameter with

the privacy profile of the target mobile terminal if said type specifies last known location information, (b) producing current location information of the target mobile terminal if said reusability test indicates an unfavorable result, (c) transmitting the current location information to the requesting mobile terminal, (d) storing the current location information in a memory as last known location information of said target mobile terminal, and (e) transmitting a copy of last known location information of the target mobile terminal to the requesting mobile terminal if said reusability test indicates a favorable result.

22. (original) A location system comprising:

a communication terminal (111) for transmitting a location request specifying a target mobile terminal, a type of location information, and a parameter of last known location information;

a first gateway (112);

a second gateway (102) for storing last known location information of home mobile terminals and privacy profiles of the mobile terminals;

first and second registers (116, 106) respectively associated with said first and second gateways; and

a plurality of wireless networks (103, 104) for establishing a wireless link to mobile terminals,

said first gateway (112) being responsive to said

location request from said communication terminal for acquiring a node identifier specifying said second gateway from said first register (116), and transmitting said location request to said second gateway (102);

said second gateway (102) being responsive to the location request from the first gateway for (a) performing a reusability test by checking said parameter with the privacy profile of the target mobile terminal if said type of location information specifies last known location information, (b) acquiring a node identifier from said second register (106) and current location information of the target mobile terminal from one of said plurality of wireless networks specified by the node identifier if said reusability test indicates an unfavorable result, (c) transmitting the current location information to the communication terminal via the first gateway, (d) storing the current location information in a memory as last known location information of said target mobile terminal, and (e) transmitting a copy of last known location information of the target mobile terminal to the communication terminal via the first gateway (112) if said reusability test indicates a favorable result.

23. (original) The location system of claim 22, further comprising a third gateway (122) which, when visited by said target mobile terminal, operates as a repeater node between

said one wireless network (123, 124) and said second gateway (102) for repeating said current location information.

24. (original) The location system of claim 19, further comprising a second gateway (112) which, when visited by said target mobile terminal, operates as a repeater node between said one wireless network (113, 114) and said first gateway (102) for repeating said current location information.

25. (original) The location system of claim 22, wherein said first gateway (112) operates as a repeater node between said second gateway (102) and said one wireless network (103, 104) for repeating said current location information.

26. (original) A location system comprising:

a communication terminal (101) for transmitting a location request specifying a target mobile terminal, a type of location information, and a parameter of last known location information;

a gateway (102);

a privacy profile register (107) for storing privacy profiles and location information of mobile terminals;

a home location register (106); and

a wireless network (103, 104) for establishing a wireless link to said mobile terminals,

said gateway being responsive to said location request for (a) authorizing said privacy profile register to perform a reusability test by checking said parameter with the privacy

profile of the target mobile terminal if said type specifies last known location information, (b) receiving a report of said reusability test from said privacy profile register, (c) acquiring a node identifier from said home location register and current location information of the target mobile terminal from one of a plurality of wireless networks specified by said node identifier if said report indicates that said reusability test indicates an unfavorable result, (d) transmitting the current location information from the gateway to the communication terminal, (e) storing the current location information in a memory of said privacy profile register as last known location information of said target mobile terminal, and (f) transmitting a copy of last known location information of the target mobile terminal to the communication terminal if said report indicates that said reusability test indicates a favorable result.

27. (original) A location system comprising:

a communication terminal (101) for transmitting a location request specifying a target mobile terminal and a type of location information;

a gateway (102) for storing last known location information of home mobile terminals;

a home location register (106);

a privacy profile register (107) for storing privacy

profiles of the mobile terminals; and

a plurality of wireless networks (103, 104) for establishing a wireless link to mobile terminals,

said gateway being responsive to said location request for (a) authorizing said privacy profile register to perform a privacy check with the privacy profile of the target mobile terminal if said type specifies last known location information, (b) receiving a report of the privacy check from said privacy profile register, (c) acquiring a node identifier from said home location register and current location information of the target mobile terminal from one of said wireless networks specified by said node identifier if said report indicates that said privacy check indicates an unfavorable result, (d) transmitting the current location information from the gateway to the communication terminal, (e) storing the current location information in a memory as last known location information of said target mobile terminal, and (f) transmitting a copy of last known location information of the target mobile terminal to the communication terminal if said report indicates that said privacy check indicates a favorable result.

28. (original) A location system comprising:

a communication terminal (111) for transmitting a location request specifying a target mobile terminal, a type of location



information, and a parameter of last known location information;

first and second gateways (112, 102);

first and second home location registers (116, 106)  
respectively associated with said first and second gateways;

a privacy profile register (107) associated with said  
second gateway (102) for storing last known location information  
of home mobile terminals and privacy profiles of the mobile  
terminals; and

a plurality of wireless networks (103, 104) for  
establishing a wireless link to mobile terminals,

said first gateway (112) being responsive to said  
location request from said communication terminal for  
acquiring a node identifier specifying said second gateway  
(102) from said first home location register (116), and  
transmitting said location request to said second gateway  
(102);

said second gateway (102) being responsive to the  
location request from the first gateway (112) for authorizing  
the privacy profile register (107) to perform a reusability  
test by checking said parameter with the privacy profile of  
the target mobile terminal if said type of location  
information specifies last known location information and  
produce a report indicating a result of the reusability test,

said second gateway (102) being responsive to said report

for acquiring a node identifier from said second home location register (106) and current location information of the target mobile terminal from one of said plurality of wireless networks specified by the node identifier if said report indicates that the result of the reusability test is unfavorable, transmitting the current location information to the communication terminal via the first gateway (112), and storing the current location information in a memory as last known location information of said target mobile terminal, and transmitting a copy of last known location information of the target mobile terminal to the communication terminal via the first gateway (112) if said report indicates that the result of the reusability test is favorable.

29. (original) A location system comprising:

a communication terminal (111) for transmitting a location request specifying a target mobile terminal, a type of location information, and a parameter of last known location information;

a first gateway (112);

a second gateway (102) for storing last known location information of home mobile terminals;

first and second home location registers (116, 106) respectively associated with said first and second gateways;

a privacy profile register (107) associated with said second gateway (102) for storing privacy profiles of the mobile

terminals; and

a plurality of wireless networks (103, 104) for establishing a wireless link to mobile terminals,

said first gateway (112) being responsive to said location request from said communication terminal for acquiring a node identifier specifying said second gateway (102) from said first home location register (116), and transmitting said location request to said second gateway (102);

said second gateway (102) being responsive to the location request from the first gateway (112) for authorizing the privacy profile register (107) to perform a privacy check with the privacy profile of the target mobile terminal to produce a report of the privacy check,

said second gateway (102) being responsive to said report for performing a reusability test by checking said parameter with the privacy profile of the target mobile terminal if said type of location information specifies last known location information and if the result of said privacy check is favorable,

said second gateway (102) acquiring a node identifier from said second home location register (106) and current location information of the target mobile terminal from one of said plurality of wireless networks specified by the node

identifier if said reusability test indicates an unfavorable result, transmitting the current location information to the communication terminal via the first gateway (112), and storing the current location information in a memory as last known location information of said target mobile terminal, and transmitting a copy of last known location information of the target mobile terminal to the communication terminal via the first gateway (112) if said reusability test indicates a favorable result.

30. (original) The location system of claim 28, further comprising a third gateway (122) which, when visited by said target mobile terminal, operates as a repeater node between said second gateway (102) and said one wireless network (123, 124) for repeating said current location information.

31. (original) The location system of claim 29, further comprising a third gateway (122) which, when visited by said target mobile terminal, operates as a repeater node between said second gateway (102) and said one wireless network (123, 124) for repeating said current location information.

32. (original) The location system of claim 26, further comprising a second gateway (112) which, when visited by said target mobile terminal, operates as a repeater node between said first gateway (102) and said one wireless network (113, 114) for repeating said current location information.

33. (original) The location system of claim 27, further comprising a second gateway (112) which, when visited by said target mobile terminal, operates as a repeater node between said first gateway (102) and said one wireless network (113, 114) for repeating said current location information.

34. (original) The location system of claim 28, wherein said first gateway (112) operates as a repeater node between said second gateway (102) and said one wireless network (113, 114) for repeating said current location information.

35. (original) The location system of claim 28, wherein said first gateway (112) operates as a repeater node between said second gateway (102) and said one wireless network (113, 114) for repeating said current location information.

36. (original) A gateway for operating with a location network to which mobile terminals are wirelessly connected, comprising:

receive means for receiving a location request from a communication terminal, said request specifying a target mobile terminal and a type of location information;

a memory;

control means for acquiring current location information of the target mobile terminal from said location network if the type of location information of the received request specifies current location information and storing the

acquired current location information in said memory as last known location information of the target mobile terminal, and reading the stored last known location information of the target mobile terminal from said memory if said type of location information specifies last known location information; and

transmit means for transmitting, to said communication terminal, a copy of the acquired current location information or a copy of the last known location information read from said memory, depending on said type of last known location information.

37. (original) The gateway of claim 36, wherein said location request further contains a parameter of last known location information, and a privacy profile of said target mobile terminal is stored in said memory,

wherein said control means includes reusability check means for performing a reusability test by checking said parameter with the stored privacy profile when said type of location information specifies last known location information and reading the stored last known location information from said memory when said reusability test indicates a favorable result.

38. (original) The gateway of claim 36, wherein said privacy profile indicates whether or not notification is

required for notifying that the target mobile terminal is being accessed, and wherein said control means further includes notification means for transmitting a notification message to said target mobile terminal prior to the transmission of said last known location information to said communication terminal if said privacy profile of said target mobile terminal requires notification.

39. (original) The gateway of claim 36, wherein said privacy profile indicates whether or not the location request is verified by the target mobile terminal, and wherein said control means further includes verification means for transmitting a verification message to said target mobile terminal and receiving a verification report from the target mobile terminal prior to the transmission of said last known location information to said communication terminal if said privacy profile of said target mobile terminal indicates that verification by the target mobile terminal is required, and transmitting said copy of last known location information to said communication terminal if said verification report indicates a favorable result.

40. (original) A location method comprising the steps of:

a) transmitting a location request from a communication terminal, said request specifying a target mobile terminal and a type of location information;

b) receiving the location request at a location network;

c) producing current location information of the target mobile terminal and transmitting the current location information from the location network to said communication terminal if the type of location information of the received request specifies current location information;

d) storing the current location information in a memory as last known location information of the target mobile terminal; and

e) copying the stored last known location information of the target mobile terminal from said memory if said type of location information specifies last known location information and transmitting the copied information from the location network to said communication terminal.

41. (original) The location method of claim 40, wherein step (e) comprises the steps of performing a reusability test on said stored last known location information and transmitting said last known location information if said reusability test indicates a favorable result.

42. (original) The location method of claim 41, wherein step (e) further comprises the steps of:

if said reusability test indicates an unfavorable result, producing current location information of the target mobile



terminal and transmitting the current location information from the location network to said communication terminal; and  
storing the current location information in said memory as last known location information of the target mobile terminal.

43. (original) The location method of claim 41, wherein said location request contains a requested age of last known location information, and wherein step (e) comprises the steps of performing said reusability test by using said requested age and transmitting said copy of the stored last known location information if the stored last known location information meets said requested age.

44. (original) The location method of claim 41, wherein said location request contains a requested age of last known location information, and wherein step (e) comprises the steps of:

performing said reusability test by using said requested age;

producing current location information of the target mobile terminal and transmitting the current location information from the location network to said communication terminal if the type of location information of the received request specifies current location information if said reusability test indicates that the stored last known

information fails to meet the requested age; and

storing the current location information in said memory as last known location information of the target mobile terminal.

45. (original) The location method of claim 40, wherein said location network maintains privacy profile of the target mobile terminal, and wherein step (e) comprises the steps of transmitting a notification message to the target mobile terminal according to said privacy profile, before transmitting said last known location information to the communication terminal.

46. (original) The location method of claim 40, wherein said location network maintains privacy profile of the target mobile terminal, and wherein step (e) comprises the steps of transmitting a verification message to the target mobile terminal according to said privacy profile and transmitting said last known location information if a verification report from the target mobile terminal indicates that the location request is verified by the target mobile terminal.

47. (original) The location method of claim 40, wherein said location network produces and transmits current location information of said target mobile terminal to said communication terminal if the stored location information of the target mobile terminal is not available and said type of

location information indicates that current location information can be used instead of last known location information.

48. (original) The location method of claim 40, wherein said communication terminal is a client terminal.

49. (original) The location method of claim 40, wherein said communication terminal is a mobile terminal which represents one of said plurality of mobile terminals.

50. (original) The location method of claim 48, further comprising the steps of:

transmitting a location request from one of said mobile terminals, said request specifying a target mobile terminal and a type of location information;

receiving said location request at said location network;

producing current location information of a target mobile terminal and transmitting the current location information from said location network to said one mobile terminal if the type of location information specifies current location information;

storing the current location information in a memory as last known location information of the target mobile terminal;  
and

copying the last known location information of the target mobile terminal from said memory if said type of location

information specifies last known location information and transmitting the copied information from said location network to said one mobile terminal.

51. (original) The location method of claim 40, wherein step (b) comprises the steps of performing a privacy check of the location request and performing steps (c) to (e) if said privacy check indicates a favorable result.

52. (original) A method of operating a gateway with a location network, comprising the steps of:

a) receiving a location request from a communication terminal, said request specifying a target mobile terminal and a type of location information;

b) acquiring current location information of the target mobile terminal from said location network and transmitting the current location information to said communication terminal if the type of location information of the received request specifies current location information;

c) storing the current location information in a memory as last known location information of the target mobile terminal; and

d) transmitting a copy of the stored last known location information of the target mobile terminal to said communication terminal if said type of location information specifies last known location information.

53. (original) The method of claim 52, wherein step (d) comprises the steps of performing a reusability test on said stored last known location information and transmitting said last known location information if said reusability test indicates a favorable result.

54. (original) The method of claim 53, wherein step (d) further comprises the steps of:

if said reusability test indicates an unfavorable result, producing current location information of the target mobile terminal and transmitting the current location information from the location network to said communication terminal; and

storing the current location information in said memory as last known location information of the target mobile terminal.

55. (original) The method of claim 53, wherein said location request contains a parameter of last known location information, and wherein step (d) comprises the steps of performing said reusability test by using said parameter and transmitting said last known location information if the reusability test indicates a favorable result.

56. (original) The method of claim 55, wherein said parameter represents one of age and accuracy of last known location information.

57. (original) The method of claim 52, wherein said

location network maintains privacy profile of the target mobile terminal, and wherein step (d) comprises the step of transmitting a notification message to the target mobile terminal according to said privacy profile before said last known location information is transmitted to the communication terminal.

58. (original) The method of claim 52, wherein said location network maintains privacy profile of the target mobile terminal, and wherein step (d) comprises the steps of transmitting a verification message to the target mobile terminal according to said privacy profile and transmitting said last known location information if a verification report from the target mobile terminal indicates that the location request is verified by the target mobile terminal.

59. (original) The method of claim 52, wherein step (a) comprises the steps of performing a privacy check of the location request and performing steps (b) to (d) if said privacy check indicates a favorable result.

60. (original) A communication terminal comprising:

transmit means for transmitting a location request to a location system in which last known location information of mobile terminals are stored, said location request specifying a target mobile terminal and a type of last known location information; and

receive means for receiving from said location system a copy of current location information of the target mobile terminal if said type specifies current location information or a copy of last known location information of the target mobile terminal if said type specifies last known location information.

61. (original) The communication terminal of claim 60, wherein said location request further specifies a parameter of last known location information.

62. (original) The communication terminal of claim 61, wherein said parameter represents one of age and accuracy of stored last known location information.

63. (original) The communication terminal of claim 60, further comprising:

a memory for storing the current location information received from said location system as last known location information of said target mobile terminal; and

control means performing a reusability test on the last location information stored in said memory in response to a request from a user, displaying the last known location information if the reusability test indicates a favorable result.

64. (original) A computer readable storage medium storing a program of operating a gateway with a location network, said

program comprising the steps of:

a) receiving a location request from a communication terminal, said request specifying a target mobile terminal and a type of location information;

b) acquiring current location information of the target mobile terminal from said location network and transmitting the current location information to said communication terminal if the type of location information of the received request specifies current location information;

c) storing the current location information in a memory as last known location information of the target mobile terminal; and

d) transmitting a copy of the stored last known location information of the target mobile terminal to said communication terminal if said type of location information specifies last known location information.

65. (original) The computer readable storage medium of claim 64, wherein step (d) comprises the steps of performing a reusability test on said stored last known location information and transmitting said last known location information if said reusability test indicates a favorable result.

66. (original) The computer readable storage medium of claim 64, wherein step (d) further comprises the steps of:



if said reusability test indicates an unfavorable result, producing current location information of the target mobile terminal and transmitting the current location information from the location network to said communication terminal; and

storing the current location information in said memory as last known location information of the target mobile terminal.

67. (original) The computer readable storage medium of claim 64, wherein said location request contains a parameter of last known location information, and wherein step (d) comprises the steps of performing said reusability test by using said parameter and transmitting said last known location information if the reusability test indicates a favorable result.

68. (original) The computer readable storage medium of claim 67, wherein said parameter represents one of age and accuracy of last known location information.

69. (original) The computer readable storage medium of claim 64, wherein said location network maintains privacy profile of the target mobile terminal, and wherein step (d) comprises the step of transmitting a notification message to the target mobile terminal according to said privacy profile before said last known location information is transmitted to the communication terminal.

70. (original) The computer readable storage medium of claim 64, wherein said location network maintains privacy profile of the target mobile terminal, and wherein step (d) comprises the steps of transmitting a verification message to the target mobile terminal according to said privacy profile and transmitting said last known location information if a verification report from the target mobile terminal indicates that the location request is verified by the target mobile terminal.

71. (original) The computer readable storage medium of claim 64, wherein step (a) comprises the steps of performing a privacy check of the location request and performing steps (b) to (d) if said privacy check indicates a favorable result.

72. (new) A location method comprising the steps of:

a) from a client terminal, transmitting a location request to a gateway for requesting location information of a target mobile terminal;

b) responsive to said location request, performing at said gateway a first privacy check of the client terminal with privacy profile of the target mobile terminal and transmitting an enquiry message from said gateway to a Home Location Register/Home Subscriber Server (HLR/HSS), if (b<sub>1</sub>) said client terminal is verified by said first privacy check, (b<sub>2</sub>) said location request contains an indication that last known

location information of the target mobile terminal may be used, (b<sub>3</sub>) said last known location information is reusably maintained in the gateway and (b<sub>4</sub>) notification to said target mobile terminal is required;

c) responsive to said enquiry message, returning from said HLR/HSS a reply message to said gateway, containing the identifier of a Serving General packet radio service Support Node/Mobile Services switching Center (SGSN/MSC) with which said target mobile terminal is currently associated;

d) responsive to said reply message, transmitting from said gateway a request message to said SGSN/MSC;

e) responsive to said request message, transmitting from said SGSN/MSC a notification/verification message to said target mobile terminal and transmitting a verification report to said gateway; and

f) responsive to said verification report, performing at said gateway a second privacy check of the client terminal with privacy profile of the target mobile terminal if said verification report indicates that said client terminal is verified by the target mobile terminal and transmitting location information of the target mobile terminal to said client terminal if said client terminal is verified by the second privacy check.

73. (new) A location method comprising the steps of:

a) from a client terminal, transmitting a location request to a gateway for requesting location information of a target mobile terminal;

b) responsive to said location request, transmitting an enquiry message from said gateway to a Home Location Register/Home Subscriber Server (HLR/HSS);

c) responsive to said enquiry message, returning from said HLR/HSS a reply message to said gateway, containing the identifier of a Serving General packet radio service Support Node/Mobile Services switching Center (SGSN/MSC) with which said target mobile terminal is currently associated;

d) responsive to said reply message, retransmitting the location request from said gateway to said SGSN/MSC;

e) responsive to said location request from the gateway , performing, at said SGSN/MSC, a first privacy check of the client terminal with privacy profile of the target mobile terminal, and transmitting from said SGSN/MSC a notification/verification message to said target mobile terminal, if (e<sub>1</sub>) said client terminal is verified by said first privacy check, (e<sub>2</sub>) said location request contains an indication that last known location information of the target mobile terminal may be used, (e<sub>3</sub>) said last known location information is reusably maintained in the gateway and (e<sub>4</sub>) notification to said target mobile terminal is required;

f) performing, at said SGSN/MSC, a second privacy check of the client terminal with privacy profile of the target mobile terminal if said client terminal is verified by the target mobile terminal and transmitting location information of the target mobile terminal from the SGSN/MSC to said gateway if said client terminal is verified by the second privacy check; and

g) at said gateway, repeating said location information from the SGSN/MSC to said client terminal.

74. (new) A location method comprising the steps of:

a) from a client terminal, transmitting a location request for requesting location information of a target mobile terminal;

b) at a first gateway, receiving said location request and transmitting an enquiry message to a Home Location Register/Home Subscriber Server (HLR/HSS);

c) responsive to said enquiry message, returning from said HLR/HSS a reply message to said first gateway, containing the identifier of a second gateway with both of which the target mobile terminal is currently associated;

d) responsive to the reply message, retransmitting said location request from said first gateway to said second gateway;

e) responsive to the location request from the first

gateway, performing at said second gateway a first privacy check of the client terminal with privacy profile of the target mobile terminal;

f) transmitting an enquiry message from said second gateway to said HLR/HSS, if (f<sub>1</sub>) said client terminal is verified by said first privacy check, (f<sub>2</sub>) said location request contains an indication that last known location information of the target mobile terminal may be used, (f<sub>3</sub>) said last known location information is reusably maintained in the second gateway and (f<sub>4</sub>) notification to said target mobile terminal is required;

g) responsive to said enquiry message, returning from said HLR/HSS a reply message to said second gateway, containing the identifier of a Serving General packet radio service Support Node/Mobile Services switching Center (SGSN/MSC) with which said target mobile terminal is currently associated;

h) responsive to said reply message, transmitting from said second gateway a request message to said SGSN/MSC;

i) responsive to the request message, transmitting from said SGSN/MSC a notification/verification message to said target mobile terminal and transmitting a verification report to said second gateway; and

j) responsive to said verification report, performing at

said second gateway a second privacy check of the client terminal with privacy profile of the target mobile terminal if said verification report indicates that said client terminal is verified by the target mobile terminal and transmitting location information of the target mobile terminal to said first gateway if said client terminal is verified by the second privacy check; and

k) at said first gateway, repeating the location information from said second gateway to said client terminal.

75. (new) A location method comprising the steps of:

a) from a client terminal, transmitting a location request for requesting location information of a target mobile terminal;

b) at a first gateway, receiving said location request and transmitting an enquiry message to a Home Location Register/Home Subscriber Server (HLR/HSS);

c) responsive to said enquiry message, returning from said HLR/HSS a reply message to said first gateway, containing the identifier of a second gateway with both of which the target mobile terminal is currently associated;

d) responsive to the reply message, retransmitting said location request from said first gateway to said second gateway;

e) responsive to the location request from the first

gateway, performing at said second gateway a first privacy check of the client terminal with privacy profile of the target mobile terminal, and transmitting an enquiry message from said second gateway to said HLR/HSS if (e<sub>1</sub>) said client terminal is verified by said first privacy check, (e<sub>2</sub>) said location request contains an indication that last known location information of the target mobile terminal may be used, (e<sub>3</sub>) the last known location information of the target mobile terminal is reusably maintained in the gateway, and (e<sub>4</sub>) notification to said target mobile terminal is required;

f) responsive to said enquiry message, returning from said HLR/HSS a reply message to said second gateway, containing the identifier of a Serving General packet radio service Support Node/Mobile Services switching Center (SGSN/MSC) and the identifier of a third gateway with both of which the target mobile terminal is currently associated;

g) responsive to said reply message, transmitting from said second gateway a request message to said third gateway;

h) at said third gateway, repeating the request message from the second gateway to said SGSN/MSC;

i) responsive to the request message, transmitting from said SGSN/MSC a notification/verification message to said target mobile terminal and transmitting a verification report to said third gateway;



j) at said third gateway, repeating the verification report from said SGSN/MSR to said second gateway;

k) responsive to said verification report, performing at said second gateway a second privacy check of the client terminal with privacy profile of the target mobile terminal if the verification report indicates that said client terminal is verified by the target mobile terminal, and transmitting location information of the target mobile terminal to said first gateway if said client terminal is verified by the second privacy check; and

l) at said first gateway, repeating the location information from the second gateway to said client terminal.

76. (new) A location method comprising the steps of:

a) from a client terminal, transmitting a location request to a first gateway for requesting location information of a target mobile terminal;

b) responsive to said location request, performing at said first gateway a first privacy check of the client terminal with privacy profile of the target mobile terminal and transmitting an enquiry message from said gateway to a Home Location Register/Home Subscriber Server (HLR/HSS), if (b<sub>1</sub>) said client terminal is verified by said first privacy check, (b<sub>2</sub>) said location request contains an indication that last known location information of the target mobile terminal

may be used, (b<sub>3</sub>) said last known location information is reusably maintained in the first gateway and (b<sub>4</sub>) notification to said target mobile terminal is required;

c) responsive to said enquiry message, returning from said HLR/HSS a reply message to said first gateway, containing the identifier of a Serving General packet radio service Support Node/Mobile Services switching Center (SGSN/MSC) and the identifier of a second gateway with both of which the target mobile terminal is currently associated;

d) responsive to said reply message, transmitting a request message from said first gateway to said second gateway;

e) responsive to said request message, retransmitting the request message from said second gateway to said SGSN/MSC;

f) responsive to said request message from the second gateway, transmitting from said SGSN/MSC a notification/verification message to said target mobile terminal and transmitting a verification report to said second gateway;

g) repeating said verification report at said second gateway to said first gateway; and

h) responsive to said verification report, performing at said first gateway a second privacy check of the client terminal with privacy profile of the target mobile terminal if

said verification report indicates that said client terminal is verified by the target mobile terminal, and transmitting location information of the target mobile terminal to said client terminal if said client terminal is verified by the second privacy check.

77. (new) A location method comprising the steps of:

a) from a client terminal, transmitting a location request for requesting location information of a target mobile terminal;

b) at a first gateway, receiving said location request and transmitting an enquiry message to a Home Location Register/Home Subscriber Server (HLR/HSS);

c) responsive to said enquiry message, returning from said HLR/HSS a reply message to said first gateway, containing the identifier of a second gateway with both of which the target mobile terminal is currently associated;

d) responsive to the reply message, retransmitting said location request from said first gateway to said second gateway;

e) responsive to the location request from the first gateway, performing at said second gateway a first privacy check of the client terminal with privacy profile of the target mobile terminal, and transmitting an enquiry message from said second gateway to said HLR/HSS if (e<sub>1</sub>) said client

terminal is verified by said first privacy check, (e<sub>2</sub>) said location request contains an indication that last known location information of the target mobile terminal may be used, (e<sub>3</sub>) the last known location information of the target mobile terminal is reusably maintained in the gateway, and (e<sub>4</sub>) notification to said target mobile terminal is required;

f) responsive to said enquiry message, returning from said HLR/HSS a reply message to said second gateway, containing the identifier of a Serving General packet radio service Support Node/Mobile Services switching Center (SGSN/MSC) and the identifier of said first gateway with both of which the target mobile terminal is currently associated;

g) responsive to said reply message, transmitting from said second gateway a request message to said first gateway;

h) at said first gateway, repeating the request message from the second gateway to said SGSN/MSC;

i) responsive to the request message, transmitting from said SGSN/MSC a notification/verification message to said target mobile terminal and transmitting a verification report to said first gateway;

j) at said first gateway, repeating the verification report from said SGSN/MSC to said second gateway;

k) responsive to said verification report, performing at said second gateway a second privacy check of the client

terminal with privacy profile of the target mobile terminal and transmitting location information of the target mobile terminal to said first gateway if said client terminal is verified by the second privacy check; and

1) at said first gateway, repeating the location information from the second gateway to said client terminal.

78. (new) A location method comprising the steps of:

a) from a client terminal, transmitting a location request for requesting location information of a target mobile terminal;

b) at a gateway, receiving said location request and transmitting an authorization request to a Privacy Profile Register (PPR);

c) responsive to the authorization request, performing at said PPR a first privacy check of the client terminal with privacy profile of the target mobile terminal, and transmitting a report message from said PPR to said gateway, if (c<sub>1</sub>) said client terminal is verified by said first privacy check, (c<sub>2</sub>) said location request contains an indication that last known location information of the target mobile terminal may be used, (c<sub>3</sub>) said last known location information is reusably maintained in the PPR and (c<sub>4</sub>) a notification to said target mobile terminal is required;

d) responsive to said report message, transmitting an

enquiry message from said gateway to a Home Location Register/Home Subscriber Server (HLR/HSS);

e) responsive to said enquiry message, returning from said HLR/HSS a reply message to said gateway, containing the identifier of a Serving General packet radio service Support Node/Mobile Services switching Center (SGSN/MS) with which said target mobile terminal is currently associated;

f) responsive to said reply message, transmitting a request message from said gateway to said SGSN/MS;

g) responsive to the request message from said gateway, transmitting from said SGSN/MS a notification/verification message to said target mobile terminal and transmitting a verification report to said gateway;

h) responsive to said verification report, transmitting from said gateway an authorization request to said PPR if said verification report indicates that said client terminal is verified by the target mobile terminal;

i) responsive to the authorization request, performing at said PPR a second privacy check of the client terminal with privacy profile of the target mobile terminal and transmitting a report message to said gateway if said client terminal is verified by the second privacy check; and

j) responsive to the report message, transmitting location information of the target mobile terminal from said

gateway to said client terminal.

79. (new) A location method comprising the steps of:

a) from a client terminal, transmitting a location request for requesting location information of a target mobile terminal;

b) at a gateway, receiving said location request and transmitting an authorization request to a Privacy Profile Register (PPR);

c) responsive to the authorization request, performing at said PPR a first privacy check of the client terminal with privacy profile of the target mobile terminal, and transmitting a report message from the PPR to said gateway if said client terminal is verified by said first privacy check;

d) responsive to the report message, transmitting an enquiry message from said gateway to a Home Location Register/Home Subscriber Server (HLR/HSS), if (d<sub>1</sub>) said location request contains an indication that last known location information of the target mobile terminal may be used, (d<sub>2</sub>) said last known location information is reusably maintained in the gateway and (d<sub>3</sub>) notification to said target mobile terminal is required;

e) responsive to said enquiry message, returning from said HLR/HSS a reply message to said gateway, containing the identifier of a Serving General packet radio service Support

Node/Mobile Services switching Center (SGSN/MSC) with which said target mobile terminal is currently associated;

f) responsive to said reply message, transmitting from said gateway a request message to said SGSN/MSC;

g) responsive to the request message, transmitting from said SGSN/MSC a notification/verification message to said target mobile terminal and transmitting a verification report to said gateway;

h) responsive to said verification report, transmitting from said gateway an authorization request to said PPR if said verification report indicates that said client terminal is verified by the target mobile terminal;

i) responsive to the authorization request, performing at said PPR a second privacy check of the client terminal with privacy profile of the target mobile terminal and transmitting a report message to said gateway if said client terminal is verified by the second privacy check; and

j) responsive to the report message, transmitting location information of the target mobile terminal from said gateway to said client terminal.

80. (new) A location method comprising the steps of:

a) from a client terminal, transmitting a location request for requesting location information of a target mobile terminal;



b) at a first gateway, receiving said location request and transmitting an enquiry message to a Home Location Register/Home Subscriber Server (HLR/HSS);

c) responsive to said enquiry message, returning from said HLR/HSS a reply message to said first gateway, containing the identifier of a second gateway with both of which the target mobile terminal is currently associated;

d) responsive to the reply message, retransmitting the location request from said first gateway to said second gateway;

e) responsive to the location request from the first gateway, transmitting an authorization request from said second gateway to a Privacy Profile Register (PPR);

f) responsive to the authorization request, performing at said PPR a first privacy check of the client terminal with privacy profile of the target mobile terminal, and transmitting a report message from said PPR to said second gateway, if (f<sub>1</sub>) said client terminal is verified by said first privacy check, (f<sub>2</sub>) said location request contains an indication that last known location information of the target mobile terminal may be used, (f<sub>3</sub>) said last known location information is reusably maintained in the PPR, and (f<sub>4</sub>) notification to said target mobile terminal is required,

g) responsive to said report message from the PPR,

transmitting from said second gateway an enquiry message to said HLR/HSS;

h) responsive to said enquiry message, returning from said HLR/HSS a reply message to said second gateway, containing the identifier of a Serving General packet radio service Support Node/Mobile Services switching Center (SGSN/MSC) with which said target mobile terminal is currently associated;

i) responsive to said reply message, transmitting from said second gateway a request message to said SGSN/MSC;

j) responsive to the request message, transmitting from said SGSN/MSC a notification/verification message to said target mobile terminal and transmitting a verification report to said second gateway;

k) responsive to said verification report, transmitting from said second gateway an authorization request to said PPR if said verification report indicates that said client terminal is verified by the target mobile terminal;

l) responsive to the authorization request, performing at said PPR a second privacy check of the client terminal with privacy profile of the target mobile terminal and transmitting a report message to said second gateway indicating whether said client terminal is verified by the second privacy check;

m) responsive to the report message, transmitting from

said second gateway location information of the target mobile terminal to said first gateway if said report message indicates that the client terminal is verified by the second privacy check; and

n) at said first gateway, repeating the location information from the second gateway to said client terminal.

81. (new) A location method comprising the steps of:

a) from a client terminal, transmitting a location request for requesting location information of a target mobile terminal;

b) at a first gateway, receiving said location request and transmitting an enquiry message to a Home Location Register/Home Subscriber Server (HLR/HSS);

c) responsive to said enquiry message, returning from said HLR/HSS a reply message to said first gateway, containing the identifier of a second gateway with both of which the target mobile terminal is currently associated;

d) responsive to the reply message, retransmitting the location request from said first gateway to said second gateway;

e) responsive to the location request from the first gateway, transmitting from said second gateway an authorization request to a Privacy Profile Register (PPR);

f) responsive to the authorization request, performing at

said PPR a first privacy check of the client terminal with privacy profile of the target mobile terminal, and transmitting a report message from said PPR to said second gateway;

g) responsive to said report message, transmitting an enquiry message from said second gateway to said HLR/HSS, if (g<sub>1</sub>) said report message indicates that said client terminal is verified by said first privacy check, (g<sub>2</sub>) said location request contains an indication that last known location information of the target mobile terminal may be used, (g<sub>3</sub>) said last known location information is reusably maintained in the second gateway and (g<sub>4</sub>) notification to said target mobile terminal is required;

h) responsive to said enquiry message, returning from said HLR/HSS a reply message to said second gateway, containing the identifier of a Serving General packet radio service Support Node/Mobile Services switching Center (SGSN/MSR) with which said target mobile terminal is currently associated;

i) responsive to said reply message, transmitting from said second gateway a request message to said SGSN/MSR;

j) responsive to the request message, transmitting from said SGSN/MSR a notification/verification message to said target mobile terminal and transmitting a verification report

to said second gateway;

k) responsive to said verification report, transmitting from said second gateway an authorization request to said PPR if said verification report indicates that said client terminal is verified by the target mobile terminal;

l) responsive to the authorization request, performing at said PPR a second privacy check of the client terminal with privacy profile of the target mobile terminal and transmitting a report message to said second gateway indicating whether said client terminal is verified by the second privacy check;

m) responsive to the report message, transmitting from said second gateway location information of the target mobile terminal to said first gateway if said report message indicates that the client terminal is verified by the second privacy check; and

n) at said first gateway, repeating the location information from the second gateway to said client terminal.

82. (new) A location method comprising the steps of:

a) from a client terminal, transmitting a location request for requesting location information of a target mobile terminal;

b) at a first gateway, receiving said location request and transmitting an enquiry message to a Home Location Register/Home Subscriber Server (HLR/HSS);

c) responsive to said enquiry message, returning a reply message from said HLR/HSS to said first gateway, containing the identifier of a second gateway with both of which the target mobile terminal is currently associated;

d) responsive to the reply message, retransmitting said location request from said first gateway to said second gateway;

e) responsive to the location request from the first gateway, transmitting from said second gateway an authorization request to a Privacy Profile Register (PPR);

f) responsive to the authorization request, performing at said PPR a first privacy check of the client terminal with privacy profile of the target mobile terminal, and transmitting a report message from said PPR to said second gateway if (f<sub>1</sub>) said client terminal is verified by said first privacy check, (f<sub>2</sub>) said location request contains an indication that last known location information of the target mobile terminal may be used, (f<sub>3</sub>) said last known location information is reusably maintained in the PPR, and (f<sub>4</sub>) notification to said target mobile terminal is required,;

g) responsive to the report message, transmitting an enquiry message from said second gateway to said HLR/HSS;

h) responsive to said enquiry message, returning from said HLR/HSS a reply message to said second gateway,

containing the identifier of a Serving General packet radio service Support Node/Mobile Services switching Center (SGSN/MSC) and the identifier of a third gateway with both of which the target mobile terminal is currently associated;

i) responsive to said reply message, transmitting a request message from said second gateway to said third gateway;

j) at said third gateway, repeating the request message to said SGSN/MSC;

k) responsive to the request message, transmitting from the SGSN/MSC a notification/verification message to said target mobile terminal and transmitting a verification report to said third gateway;

l) at said third gateway, repeating the verification report from said SGSN/MSC to said second gateway;

m) responsive to said verification report, transmitting from said second gateway an authorization request to said PPR if said verification report indicates that said client terminal is verified by the target mobile terminal;

n) responsive to the authorization request, performing at said PPR a second privacy check of the client terminal with privacy profile of the target mobile terminal and transmitting location information of the target mobile terminal to said second gateway if said location request is verified by the

second privacy check;

o) at said second gateway, repeating the location information from said PPR to said first gateway; and

p) at said first gateway, repeating the location information from said second gateway to said client terminal.

83. (new) A location method comprising the steps of:

a) from a client terminal, transmitting a location request for requesting location information of a target mobile terminal;

b) at a first gateway, receiving said location request and transmitting an enquiry message to a Home Location Register/Home Subscriber Server (HLR/HSS);

c) responsive to said enquiry message, returning from said HLR/HSS a reply message to said first gateway, containing the identifier of a second gateway with both of which the target mobile terminal is currently associated;

d) responsive to the reply message, retransmitting said location request from said first gateway to said second gateway;

e) responsive to the location request, transmitting an authorization request from the second gateway to a Privacy Profile Register (PPR);

f) responsive to the authorization request, performing at said PPR a first privacy check of the client terminal with



privacy profile of the target mobile terminal and transmitting a report message from said PPR to said second gateway, if (f<sub>1</sub>) said location request is verified by said first privacy check and (f<sub>2</sub>) said location request contains an indication that last known location information of the target mobile terminal may be used;

g) responsive to said report message, transmitting an enquiry message from said second gateway to said HLR/HSS, if (g<sub>1</sub>) the report message indicates that the last known location information of the target mobile terminal is reusably maintained in the second gateway and (g<sub>2</sub>) notification to said target mobile terminal is required;

h) responsive to said enquiry message, returning a reply message from said HLR/HSS to said second gateway, containing the identifier of a Serving General packet radio service Support Node/Mobile Services switching Center (SGSN/MSC) and the identifier of said first gateway with both of which the target mobile terminal is currently associated;

i) responsive to said reply message, transmitting a request message from said second gateway to said first gateway;

j) at the first gateway, repeating the request message to said SGSN/MSC;

k) responsive to the request message, transmitting a

notification/verification message from said SGSN/MSC to said target mobile terminal and transmitting a verification report to said first gateway;

l) at said first gateway, repeating the verification report to said second gateway;

m) responsive to said verification report, transmitting from the second gateway an authorization request to said PPR if said verification report indicates that said client terminal is verified by the target mobile terminal;

n) responsive to the authorization request, performing at said PPR, a second privacy check of the client terminal with privacy profile of the target mobile terminal and transmitting location information of the target mobile terminal from the PPR to said second gateway if said location request is verified by the second privacy check;

o) at said second gateway, repeating the location information from said PPR to said first gateway; and

p) at said first gateway, repeating the location information from said second gateway to said client terminal.

84. (new) A location method comprising the steps of:

a) from a client terminal, transmitting a location request to a first gateway for requesting location information of a target mobile terminal;

b) responsive to said location request, transmitting from

said first gateway an authorization request to a Privacy Profile Register (PPR);

c) responsive to said authorization request, performing at said PPR a first privacy check of the client terminal with privacy profile of the target mobile terminal, and transmitting a report message to said first gateway, if (c<sub>1</sub>) said client terminal is verified by the first privacy check, (c<sub>2</sub>) said location request indicates that last known location information of the target mobile terminal may be used, (c<sub>3</sub>) said last known location information is reusably maintained in the PPR and (c<sub>4</sub>) notification to said target mobile terminal is required;

d) responsive to said report message, transmitting an enquiry message from said first gateway to a Home Location Register/Home Subscriber Server (HLR/HSS);

e) responsive to said enquiry message, returning from said HLR/HSS a reply message to said first gateway, containing the identifier of a Serving General packet radio service Support Node/Mobile Services switching Center (SGSN/MSC) and the identifier of a second gateway with both of which the target mobile terminal is currently associated;

f) responsive to said reply message, transmitting a request message from said first gateway to said second gateway;

g) responsive to said request message, retransmitting the request message from said second gateway to said SGSN/MSC;

h) responsive to said request message from the second gateway, transmitting from said SGSN/MSC a notification/verification message to said target mobile terminal and transmitting a verification report to said second gateway;

i) repeating said verification report at said second gateway to said first gateway; and

j) responsive to said verification report, transmitting an authorization request from the first gateway to said PPR if said verification report indicates that said client terminal is verified by the target mobile terminal;

k) responsive to said authorization request, performing at said PPR a second privacy check of the client terminal with privacy profile of the target mobile terminal and transmitting a report message to said first gateway; and

l) responsive to said report message, transmitting location information of the target mobile terminal from said first gateway to said client terminal if said client terminal is verified by the second privacy check.

85. (new) A location method comprising the steps of:

a) from a client terminal, transmitting a location request to a first gateway for requesting location information

of a target mobile terminal;

b) responsive to said location request, transmitting from said first gateway an authorization request to a Privacy Profile Register (PPR);

c) responsive to said authorization request, performing at said PPR a first privacy check of the client terminal with privacy profile of the target mobile terminal, and transmitting a report message to said first gateway if said client terminal is verified by the first privacy check,

d) responsive to said report message, transmitting an enquiry message from said first gateway to a Home Location Register/Home Subscriber Server (HLR/HSS), if (d<sub>1</sub>) said location request indicates that last known location information of the target mobile terminal may be used, (d<sub>2</sub>) said last known location information is reusably maintained in the first gateway and (d<sub>3</sub>) notification to said target mobile terminal is required;

e) responsive to said enquiry message, returning from said HLR/HSS a reply message to said first gateway, containing the identifier of a Serving General packet radio service Support Node/Mobile Services switching Center (SGSN/MSC) and the identifier of a second gateway with both of which the target mobile terminal is currently associated;

f) responsive to said reply message, transmitting a

request message from said first gateway to said second gateway;

g) responsive to said request message, retransmitting the request message from said second gateway to said SGSN/MSC;

h) responsive to said request message from the second gateway, transmitting from said SGSN/MSC a notification/verification message to said target mobile terminal and transmitting a verification report to said second gateway;

i) repeating said verification report at said second gateway to said first gateway; and

j) responsive to said verification report, transmitting an authorization request from the first gateway to said PPR if said verification report indicates that said client terminal is verified by the target mobile terminal;

k) responsive to said authorization request, performing at said PPR a second privacy check of the client terminal with privacy profile of the target mobile terminal and transmitting a report message to said first gateway; and

l) responsive to said report message, transmitting location information of the target mobile terminal from said first gateway to said client terminal if said client terminal is verified by the second privacy check.

86. (new) A location method comprising the steps of:

a) from a client terminal, transmitting a location request for requesting location information of a target mobile terminal;

b) at a first gateway, receiving said location request and transmitting an enquiry message to a Home Location Register/Home Subscriber Server (HLR/HSS);

c) responsive to said enquiry message, returning from said HLR/HSS a reply message to said first gateway, containing the identifier of a second gateway with both of which the target mobile terminal is currently associated;

d) responsive to the reply message, retransmitting said location request from said first gateway to said second gateway;

e) responsive to the location request from the first gateway, transmitting an authorization request from said second gateway to a Privacy Profile Register (PPR);

f) responsive to the authorization request, performing at said PPR a first privacy check of the client terminal with privacy profile of the target mobile terminal, and transmitting a report message to said second gateway, if (f<sub>1</sub>) said client terminal is verified by said first privacy check, (f<sub>2</sub>) said location request contains an indication that last known location information of the target mobile terminal may be used, (f<sub>3</sub>) said last known location information is reusably

maintained in the second gateway, and (f<sub>4</sub>) notification to said target mobile terminal is required;

g) responsive to said report message, transmitting an enquiry message from said second gateway to said HLR/HSS;

h) responsive to said enquiry message, returning from said HLR/HSS a reply message to said second gateway, containing the identifier of a Serving General packet radio service Support Node/Mobile Services switching Center (SGSN/MSC) and the identifier of said first gateway with both of which the target mobile terminal is currently associated;

i) responsive to said reply message, transmitting from said second gateway a request message to said first gateway;

j) at said first gateway, repeating the request message to said SGSN/MSC;

k) responsive to the request message, transmitting from said SGSN/MSC a notification/verification message to said target mobile terminal and transmitting a verification report to said first gateway;

l) at said first gateway, repeating the verification report from said SGSN/MSC to said second gateway;

m) responsive to said verification report, transmitting from said second gateway an authorization request to said PPR if said verification report indicates that said client terminal is verified by the target mobile terminal;



n) responsive to said authorization request, performing at said PPR a second privacy check of the client terminal with privacy profile of the target mobile terminal and transmitting a report message to said second gateway if said client terminal is verified by the second privacy check;

o) responsive to said report message, transmitting location information of the target mobile terminal from the second gateway to said first gateway; and

p) at said first gateway, repeating the location information from the second gateway to said client terminal.

87. (new) A location method comprising the steps of:

a) from a client terminal, transmitting a location request for requesting location information of a target mobile terminal;

b) at a first gateway, receiving said location request and transmitting an enquiry message to a Home Location Register/Home Subscriber Server (HLR/HSS);

c) responsive to said enquiry message, returning from said HLR/HSS a reply message to said first gateway, containing the identifier of a second gateway with both of which the target mobile terminal is currently associated;

d) responsive to the reply message, retransmitting said location request from said first gateway to said second gateway;

e) responsive to the location request from the first gateway, transmitting an authorization request from said second gateway to a Privacy Profile Register (PPR);

f) responsive to the authorization request, performing at said PPR a first privacy check of the client terminal with privacy profile of the target mobile terminal, and transmitting a report message to said second gateway if said client terminal is verified by said first privacy check;

g) responsive to said report message, transmitting an enquiry message from said second gateway to said HLR/HSS, if (g<sub>1</sub>) said location request contains an indication that last known location information of the target mobile terminal may be used, (g<sub>2</sub>) said last known location information is reusably maintained in the second gateway, and (g<sub>3</sub>) notification to said target mobile terminal is required;

h) responsive to said enquiry message, returning from said HLR/HSS a reply message to said second gateway, containing the identifier of a Serving General packet radio service Support Node/Mobile Services switching Center (SGSN/MSC) and the identifier of said first gateway with both of which the target mobile terminal is currently associated;

i) responsive to said reply message, transmitting from said second gateway a request message to said first gateway;

j) at said first gateway, repeating the request message

to said SGSN/MSC;

k) responsive to the request message, transmitting from said SGSN/MSC a notification/verification message to said target mobile terminal and transmitting a verification report to said first gateway;

l) at said first gateway, repeating the verification report from said SGSN/MSC to said second gateway;

m) responsive to said verification report, transmitting from said second gateway an authorization request to said PPR if said verification report indicates that said client terminal is verified by the target mobile terminal;

n) responsive to said authorization request, performing at said PPR a second privacy check of the client terminal with privacy profile of the target mobile terminal and transmitting a report message to said second gateway if said client terminal is verified by the second privacy check;

o) responsive to said report message, transmitting location information of the target mobile terminal from the second gateway to said first gateway; and

p) at said first gateway, repeating the location information from the second gateway to said client terminal.

88. (new) A location method comprising the steps of:

a) from a mobile terminal, transmitting a location request to a Serving General packet radio service Support

Node/Mobile Services switching Center (SGSN/MSC) for requesting location information of a target mobile terminal; and

b) responsive to said location request, transmitting last known location information of the target mobile terminal from said SGSN/MSC to said mobile terminal, if (b<sub>1</sub>) the location request contains an indication that last known location information of the target mobile terminal may be used and (b<sub>2</sub>) said last known location information is reusably maintained in said SGSN/MSC.

Charge the fee of \$306 for the 17 claims of any type added herewith and the fee of \$1,462 for the 17 independent claims added herewith to deposit account No. 25-0120.